Texas Gulf Terminals, Inc. Application Data Gaps I Considered Still Open – 12/4/2018

Info Request #	Resource	App Vol	Application Section	Agency	Information Request	Applicant Response	Status
2	Project Description	Vol II	Section 1	USCG	Identify and include source(s) of crude oil and number of pipelines that will feed the onshore storage terminal facility. Analyze impacts of these crude oil pipelines on all onshore resources.	The source of crude oil for the project has been determined to be an existing crude oil storage facility, located in Corpus Christi, Nueces County, Texas (Corpus Christi Storage). Due to the multiple storage agreements available in the Corpus Christi Storage area, and the undergoing review of the technical analysis discussed in the paragraph below; the route, number, and size of the pipeline(s) to extend from Corpus Christi Storage to the proposed Onshore Storage Terminal Facility (OSTF) associated with the Project has not been fully defined at this stage. An environmental desktop analysis has been conducted to identify potential environmental constraints (i.e. potentially jurisdictional wetlands and waterbodies and federally-listed threatened, endangered, or candidate species and/or their associated habitat), and cultural resources along two potential pipeline routes extending from Corpus Christi Storage and the proposed OSTF. See attachment – TGTI Incoming Pipeline Desktop Analysis	Not complete. See Data Gap 2-1.
2-1	Project Description	Vol II	Section 1	USCG	**Follow up to TGTI response to Data Gap #2:** The TGTI Incoming Pipeline Desktop Analysis is incomplete. Please provide a revised report that provide impact analysis on all affected environments. The supply pipeline is a connected action to the Project and, therefore, must be addressed in the EIS with the same level of review as the rest of the Project components, including an analysis of route alternatives. Information about landownership, facility ownership, and construction details must be provided.	In Progress	
4	All Resources	Vol II	Appendix A, Phase 2 HDD	USCG	There are two existing channels that may be suitable for transiting the pipelay barge to the required location; however, it is still anticipated that some widening/deepening may need to occur. Provide an analysis of the impact, if widening/deepening is required.	Based on the bathymetric survey of Laguna Madre conducted for the Project (Laguna Madre Geophycial Survey Plot 3) and current aerial imagery provided by Google Earth and ESRI, the two existing channels that will be used to transit equipment and pipe barges to the required HDD location and workspace areas range in width from approximately 55 ft to 85 ft and are approximately 3.2-3.9 ft (NAVD 88) deep. The barges that will be used to transit pipe and equipment to the HDD location and workspaces will be 40-45ft wide and have a loaded draft depth of less than 3.5 ft. The barges will be transferred at highest tide to avoid any bottom scraping of the channels. The existing channels do not require any deepening and widening.	Not complete. See Data Gap 4-1.

4-1	All Resources	Vol II	Appendix A, Phase 2 HDD	USCG	**Follow up to TGTI response to Data Gap #4:** For the scenario where a barge having a loaded draft depth of 3.5 feet is navigating an approximately 3.2-foot water depth channel, confirm by providing tidal data how often the highest tide occurs and the time duration the barge can navigate without grounding and the steps that will be taken if grounded. In addition, please describe the barge configuration in terms of how it will reach the work area. Confirm if the barge will be self-propelled or if a tug will be used to move the barge into location.	The tide pattern in Laguna Madre is diurnal. Based on NOAA tide station data, there is approximately 12 hours between the daily high tide and low tide. Additionally, at this station there is an approximate 0.37 feet of variation between high and low tide. However, time of year and local weather patterns have the ability to affect the water levels in Laguna Madre. As such, the tide can exhibit a higher than normal pattern or a lower than normal pattern based on these conditions. The monthly mean, maximum, and minimum observed tides in the last full calendar year (2017) were assessed at the S. Bird Island tide gauge, the nearest NOAA tide gage to the project location. The S. Bird Island tide gauge is located approximately 4.2 miles south of the project. A mean higher high tide and mean lower low tide tidal datum is not computed by NOAA for this location. Thus, all water level data from the local tide gauges are recorded in either Mean Sea Level or NAVD88 vertical geodetic datums. The data for 2017 is shown in Table 1 below (NOAA Tides and Currents, 2018). ***Table 1: Water Level Data, NOAA Tide Station, S. Bird Island, TX (2017)*** ***In feet (Vertical Datum NAVD88)*** The data displayed in the table above is in the geodetic vertical datum NAVD88. The bathymetric survey of the Laguna Madre area where the proposed pipeline and HDD locations are located was also conducted using the NAVD88 vertical datum. The soundings recorded during the bathymetric survey show that the channels to be used to navigate the barges into place are approximately 3.2 to 3.9 feet deep based on a reference benchmark in NAVD88 datum, or -3.2 to -3.9 feet NAVD88 elevation. The water levels recorded at the tide gauge at S. Bird Island show that the minimum water level is approximately 0.35 feet NAVD88, the maximum water level is 1.71 feet NAVD88, and an annual mean water level of 0.97 feet NAVD88. This correlates to an actual water depth in the channel of a minimum of 3.55 ft (3.2 ft + 0.35 ft = 3.55 ft) and maximum of 5.61 ft (3.9 ft + 1.71 ft = 5.61 ft). The barges to be used to navigate these channels require a draft depth of 3.5 feet for operations. As such, assuming barges would be navigating these channels at average or semi-favorable conditions, it would be highly unlikely for grounding to occur. Additionally, most areas within these channels to be used are deeper that 3.5 ft according to the bathymetric surveys conducted. Areas consisting of shallower depths can be navigated around to the maximum extent practicable or only passed during suitable conditions. The barge will have a tug attached for maneuvering during transit. The draft on the tug will vary based on contractor availability. However, a shallow draft tug requiring depths of approximately 3 to 4 feet will be utilized. This tug type is smaller and more maneuverable and therefore can adequately navigate the canals and avoid grounding and sediment disturbance. The tug, during normal operations, will be attached to the stern of the hopper barge and will push the hopper barge. In some cases (and depending on canal width and depth) the tug may also be attached to the port or starboard side. In the unlikely event of grounding, the first course of action is to reverse course and find a more suitable approach with the necessary depth. If grounding occurs and reversal of course is not possible or is unsuccessful, the barge will be stalled in a resting position and allowed to wait for higher tide or more favorable weather conditions to float the vessel before continuing to navigate the channel. The barge will not be towed or dragged across the bottom in order to avoid disturbance of benthic aquatic vegetation or organisms in the area. In the event of grounding during highest water level conditions, the emergency approach will be to reverse path while a second tug performs a “wheel wash”. Wheel wash involves using the prop from the vessel to create a current under the barge that “washes” sediment from underneath the grounded vessel. A wheel wash would be considered an emergency procedure and will be reported so that any impacts or mitigation of sediment disturbance can be addressed. The barges (and support tugs) will enter the exiting channel network from the GIWW. The barges will follow the course of the existing channel network to ultimately reach the point of intersection with the pipeline alignment (the site of the HDD 3A box). From this point, the barges will navigate out of the channel and into the Laguna Madre area within the areas mapped as designated workspaces. All impacts to bottom substrate and benthic species will occur within the designated workspace areas and have thus been accounted for in the provided impact assessments and proposed mitigation plans. The barges and tugs will not be allowed to operate in any other areas besides the exiting channels where adequate width and draft depth is available, and the proposed workspace corridors. <u>Sources:</u> NOAA Tides and Currents (2018). S. Bird Island, TX Station ID: 8776139. Tides, Water Levels. Accessed November 12, 2018. Available at https://tidesandcurrents.noaa.gov/stationhome.html?id=8776139	

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean
Min	0.18	0	0.14	0.38	0.37	0.57	0.19	0.19	0.55	0.91	0.49	0.19	**0.35**
Max	1.43	1.05	1.57	1.45	1.57	1.61	1.16	2.79	1.75	2.69	1.58	1.92	**1.71**
Mean	0.91	0.53	0.88	0.97	0.94	1.08	0.56	0.75	1.16	1.92	1.08	0.86	**0.97**

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5	Alternate Analysis	Vol II	Section 2	USCG	Provide alternatives analysis for alternate onshore pipeline routes and location of onshore storage terminal facility.	The Alternative Analysis (Volume II, Section 2) addresses alternate onshore pipeline routes and alternates onshore storage terminal facility locations as part of the Tier IV Siting Analysis of Required Project Components (Section 2.6, page 2-32). Tier IV consists of the screening of location alternatives for the general DWP siting, location alternatives for the onshore storage terminal facility (OSTF), and pipeline infrastructure route alternatives. Three locations were evaluated for the siting of the OSTF. Three pipeline alternatives were considered during the analysis to connect the OSTF location to the DWP location. All three-pipeline alternatives shared the onshore route due to landowner preference, and the routes location within a previously disturbed and existing pipeline corridor. No other onshore pipeline routes were practicable or feasible due to landowner requirements.	Not complete. See Data Gap 5-1.
5-1	Alternate Analysis	Vol II	Section 2	USCG	**Follow up to TGTI response to Data Gap #5:** Under NEPA requirements, a range of alternatives must be presented and explored as potential routes in the EIS. To meet NEPA regulations, an analysis of alternative routes must be presented. Please provide an analysis of potential onshore routes. Please provide analysis of potential routing from OSTF Alternative Locations A and C to the DWP location. As indicated in Data Gap #2-1	In Progress	
7	Water Quality	Vol II	Section 3	USCG	Provide a table listing water intake and discharge from all vessels and hydrostatic testing. Table should include intake/discharge location and fluid amount.	*Vessels:* In Section 3.3.2.1 - Discharges and Intakes – Discharges - **Table 3-2: Liquid Discharges from Vessels** (Page 3-12) provides (1) a list of all of the expected fluid discharges which will occur from any vessels attached to the SPM buoy, (2) the fluid rates with the periods when such discharges will occur, and (3) the distance below the water line of the expected discharges. Necessarily, the fluid intake rates of seawater will be roughly equal to the expected discharge rates over the periods described. Fluid intake will occur through sea chests located below the waterline. *Hydrostatic Testing:* The hydrostatic testing of the proposed offshore and inshore pipelines will be a single event and is described in Section 3.3.1.2 Hydrostatic Testing. The total estimated volume of test water is 700,000 gallons (26.81 miles of 30” pipeline) with a discharge rate of 5,000 gallons per minute. The intake will be a groundwater supply system located at the onshore terminal facility (OSTF). The test water will be discharged back into the marine and/or estuarine environment through Outfall 201. Outfall 201 is located at 27o35’19.56”N, 97o24’56.22”W, approximately 14.8 miles south of Corpus Christi, Texas. The outfall flows through a dedicated discharge pipe and discharges over land and ultimately into the Laguna Madre/Intracoastal Canal (Tidally Influenced Zone).	Not complete. See Data Gap 7-1.

<table>
<tr><th>Info Request #</th><th>Resource</th><th>App Vol</th><th>Application Section</th><th>Agency</th><th>Information Request</th><th>Applicant Response</th><th>Status</th></tr>
<tr><td>7-1</td><td>Water Quality</td><td>Vol II</td><td>Section 3</td><td>USCG</td><td>Follow up to TGTI response to Data Gap #7: This response is not complete. Please add “intake sources and volumes” to Table 3-2.</td><td>
Table 3-2: Liquid Intake / Discharge from Vessels
<table>
<tr><th>Discharges</th><th>Source</th><th>Rate (gallons per minute)</th><th>Period</th><th>F</th><th>Treatment</th></tr>
<tr><td>Ballast Water</td><td>Ballast Tanks</td><td>6,900</td><td>Continuous (7.4 of every 8.4 days)</td><td>62–87</td><td>Filtration, electrochem treatment, ocean discha through outfall</td></tr>
<tr><td>IGG Scrubber Water</td><td>IGG Scrubber Wash Water</td><td>50</td><td>72 hours per year</td><td>62–87</td><td>Filtration, electrochem treatment, ocean discha through outfall</td></tr>
<tr><td>Sanitary Sewer</td><td>Personnel Sewage Treatment</td><td>20</td><td>Continuous</td><td>75–90</td><td>Type II Marine Sanitat Device, aeration an disinfection, ocean disch through outfall</td></tr>
<tr><td>Generator Cooling Water</td><td>Non-contact cooling water for essential generator tests</td><td>600</td><td>30 min per 2 weeks</td><td>63–88</td><td>Filtration, electrochem treatment, ocean discha through outfall</td></tr>
<tr><td>RO reject water</td><td>Filter Backwash and brine from water treatment plant</td><td>450</td><td>Continuous</td><td>62–87</td><td>Filtration, electrochem treatment, ocean discha through outfall</td></tr>
<tr><td>Fire Water Deluge test Bypass Water</td><td>Pump test fire water deluge system</td><td>7,000</td><td>30 min per week</td><td>62–87</td><td>Filtration, electrochem treatment, ocean discha through outfall</td></tr>
<tr><th>Intake Sources</th><th>Source</th><th>Rate (gallons per minute)</th><th>Period</th><th>F</th><th>Treatment</th></tr>
<tr><td>Seachests</td><td>Raw Seawater</td><td>20 (minimum)</td><td>Minimum flow (Continuous)</td><td>62-87</td><td>Varies according to use above)</td></tr>
<tr><td>Seachests</td><td>Raw Seawater</td><td>15,020 (maximum)</td><td>Maximum flow (Max of 30 min per week)</td><td>62-87</td><td>Varies according to use above)</td></tr>
</table>
Notes:
All overboard discharges are located at least 3 m below the water line.
Antifouling-treated seawater discharges would have maximum residual chlorine concentrations of 0.5 mg/L.
Temperatures reflect the ambient water temperature of 62-87 F at the deepwater port.
Each ship will have several intake structures (seachests). They are all located at the bottom of the ship hull (below the water line).
Maximum intake rate assumes the unlikely event that all ship water discharge processes are simultaneously operating at max capacity.
Key:
F = degrees Fahrenheit
DWP = deep water port
mg/L = milligrams per liter
T = temperature
</td><td></td></tr>
<tr><td>12</td><td>Water Quality</td><td>Vol II</td><td>Section 3</td><td>USCG</td><td>Provide chemical analysis of sediment along proposed offshore pipeline routes and DWP locations. Provide a source for the following statement: "Known sediment contamination does not occur in the Project area.”</td><td>An offshore geophysical survey was conducted and provide as Volume I Appendix D.
Sediment characteristics of offshore sediment along the proposed pipeline is presented in Volume I Appendix N.
A report containing information of the geotechnical and sediment properties of the SPM and PLEM location is included in the application documents as Volume I, Appendix P.
Sediment sampling was conducted along the proposed pipeline route and SPM location and is described in the Offshore Surficial Sediment Sampling Analysis report in Volume I, Appendix F.
There is no indication, from the results or observations made from the physical surveys listed above, of any sediment contamination in the project area. Additionally, because sediment will not be removed and disposed of during any project activity, there is no requirement, under 40 CFR 227.5(c) or otherwise, for sediment chemical analysis along the pipeline route.</td><td>Not complete. See Data Gap 12-1.</td></tr>
</table>

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12-1	Water Quality	Vol II	3	USCG	**Follow up to TGTI response to Data Gap #12**: The response refers to several geotechnical reports of the sediments within the project footprint which include grain size and texture observations, but do not provide any data to support the statement that known sediment contamination does not occur in the project area. Installation of pilings will involve disturbance of sediments and resuspension. Please provide data (existing or historical) and analysis for the expected low concentrations of contaminants present in the affected sediments.	In progress	
16	Wildlife and Protected Species	Vol II	Section 7	USCG	Discharges from vessel cooling water systems are heated discharges, with the temperature of the discharge typically in the range of 5 to 10 °F (3 to 6 degrees Celsius [°C]) higher than the temperature of seawater initially withdrawn. This discharge will result in a heated plume that will return to ambient temperatures as it moves away from the tanker. Provide analysis of this conclusion using USEPA's CORMIX Model.	Have requested a call with CG to discuss	Waiting on EPA concurrence.
18	Cultural Resources	Vol II	Section 8	USCG, TT	A cultural resources survey of the **onshore** portion of the Project area was not conducted; as such, these sites have not been directly evaluated. Additional cultural resources surveys of the onshore portion of the Project area will be completed in consultation with the THC if required for NHPA Section 106 or NEPA compliance. Document consultation with the Texas Historical Commission regarding the need for archaeological survey of the onshore portion of the Project. If required, has an onshore cultural resource survey been completed?	A cultural resources survey has not been completed for onshore portions of the proposed Project. The Applicant proposes to engage in consultation with the Texas Historical Commission to determine the necessary survey requirements for this portion of the Project for compliance with Section 106 of the National Historic Preservation Act. If determined necessary because of these consultations, the Applicant will conduct the necessary archaeological surveys for onshore portions of the proposed Project.	Not complete. See Data Gap 18-1.
18-1	Cultural Resources	Vol II	Section 8	USCG, TT	**Follow up to TGTI's response to Data Gap #18:** A cultural resources survey has not been completed for onshore portions of the proposed Project. The requirements of the Texas Historical Commission and the National Historic Preservation Act must be met and any necessary cultural resource survey(s) must be completed for the onshore components, including the oil supply pipeline to the OSTF.	Met with THC on Friday, November 9, 2018. Drafting plan based upon that meeting and then will execute.	
23		Drawings		USCG	Please provide corrections to the following drawings: • DWG 4 - Need Dimensions for the fairway, existing anchorage and safety approach fairway to DWP to be shown; • DWG 6 - ATBA is shown smaller than safety zone. Coordinates for the SPM Buoy (geographical and rectangular) to be shown, Inner circle radius should be 1615 feet and not 1614 feet; • DWG 7 - ATBA is shown smaller than safety zone which is not correct. No anchorage area is not marked. Conflict between pile anchor locations and existing pipelines to be verified.	The drawings have been revised. Please also reference response numbers 22 and 35 for more clarification of ATBA and safety zone definitions and dimensions See attachment for drawings. Revised DWG4-6-7 for Q23	Not complete. See Data Gap 23-1.
23-1		Drawings		USCG	**Follow up to TGTI response to Data Gap #23**: The dimensions of the Safety Zone, ATBA, and No Anchorage area in these drawings are not correct. USCG will calculate these areas, Tetra Tech will update the figures with the correct areas and provide TGTI the updated figures for review.	Call to discuss- 11/19.	
31	All	All		USCG	Though the MARAD licensing jurisdiction under the DWPA ends with MHT boundary, under DWPA-required NEPA analysis, MARAD is required to access all connected actions for the projects including the nearshore and onshore pipelines to the terminal, the pipeline(s) that supply the terminal, the valve station and booster pump station. The impact analysis for these shore structures, as well as the yet to be determined pipeline(s) that will be supplying crude to the terminal, must be treated with the same detail of impact analysis as the DWP itself. Provide detailed description of the supply pipeline(s) to the terminal and associated impacts under all NEPA resource areas. Provide additional level of detail equivalent to the DWP analysis in all NEPA resource areas for the nearshore and shore pipelines and facilities. Coordinate this with the CG EPS.	Will coordinate with CG EPS to answer.	Not complete. See Data Gap 31-1.
31-1	All	All		USCG	**Follow up to TGTI response to Data Gap #31**: See Data Gap #2-1, follow up to TGTI response to Data Gap #2.	In progress	

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34	Risk Management	Vol I	Appendix S, T, U	USCG-RCB	Provide the following additional information at it related to the spill volume, trajectory, and Tactical Response Plan: • Additional spill volume and trajectory mapping and on-land impacts at points along the inshore and onshore pipeline, pump station and terminal. • A vessel spill component in the offshore trajectory modeling. 33 CFR 155 has guidance on what vessel volumes should be considered but TGTI should coordinate this with USCG Sector Corpus Christi along with other contingency planning that may be required. • Basic discussion on how TGTI will implement the Tactical Response Plan and actions they will take to meet the Area Contingency Plan and other requirements. A general level of detail is required at this stage of the permitting process. • Impacts to other operations, vessel traffic, and public in the area from the spill itself and potential for any thermal affects from accidental or inattentional fire in in-situ burning.	Still drafting. Should be complete by the end of October.	Not complete. See Data Gap 104-1.
34-1	Risk Management	Vol I	Appendix S, T, U	USCG-RCB	Follow up to response to Data Gap #34: There are items requiring clarification for Appendix S, T, and U. Please also see Data Gap #104-1.	On Hold until feedback and direction from CG/MARAD/TT	
38	Water Quality (Water Quality Certification)			USACE	Complete and submit a Texas Commission on Environmental Quality Tier II Questionnaire for the proposed project.	The Applicant is currently seeking guidance as to whether the Texas Commission on Environmental Quality (TCEQ) and/or the Texas Railroad Commission (TXRRC) are to issue a water quality certification for the proposed Project. Once the issuing agency is confirmed, the Applicant will be following the applicable review process to obtain the necessary clearances.	Not complete. See Data Gap 38-1.
38-1	Water Quality (Water Quality Certification)			USACE	**Follow up to TGTI response to Data Gap #38**: Standing by for resolution of the issue between TCEQ and TXRRC. Provide status update when known.	The applicant has determined that the Texas Commission on Environmental Quality (TCEQ) will issue the water quality certification for the proposed Project. As such, the applicant has completed the Tier II Water Quality Certification application and has submitted to the TCEQ for review.	
70		1	7	MARAD	The last line of page 7-1 of Volume I states the "Project can be modified for the export of product." The proposed project is primarily designed (already) for exports. Provide modifications or clarifications to this language regarding modifications that may support the IMPORT of oil or other bi-directional capabilities.	Under some circumstances it may be required to import crude oil. Depending on the VLCC pumping configuration this may be as simple as reversing flow from the VLCC to the onshore storage terminal. If additional infrastructure is required for this operation, TGTI will co-ordinate with the relevant agencies.	Not complete. See Data Gap 70-1.
70-1		Vol II	Section 8.2.6	MARAD	**Follow up to TGTI response to Data Gap #70:** The TGTI deepwater port license application materials do not support any consideration of imports through the deepwater port. The Notice of Application, scoping meetings, and environmental analyses conducted to date all relate only to the impacts of exports. Any Record of Decision for the project, as currently proposed, will only pertain to export activities. Use of the TGTI facility for import activities would require, at a minimum, further environmental review.	TGTI acknowledges this application is for exports only.	
73		2	7.3.1.1	MARAD	Throughout several sections of Volume II there are references to impacts resulting from the OSTF, the pipeline, and the SPM buoy system. However, the booster station (and valve station) are frequently omitted from the discussion of impacts. Provide additional discussion on the impacts of the booster station and the valve station.	Impacts associated with the booster station and valve station are included in the discussions concerning the "onshore pipeline infrastructure" and any general discussion of impacts due to "project components" or "onshore project components." Selections of applicable Volume II Sections where impacts of the booster station and valve station are discussed are listed below: - Section 4: the booster station and valve station locations were included in the wetlands survey area. - Section 7: the booster station and valve station locations were included in the threatened and endangered species survey areas. - Section 8: the valve station location was included in the cultural resources survey area. - Section 12: Impacts from noise from engines, equipment and pumps located at the booster station, also referred to as a pump station, can be referenced in *section 12.3.2.2.1 Onshore Storage Facility and Pump Station.* Noise mitigation for the booster station is also discussed in *section 12.5.2 Ambient Noise.* - Section 14: Safety and security measures of the booster station and valve station operations are discussed in this section as part of the overall DWP safety and emergency shutdown operations.	Not complete. See Data Gap 73-1.
73-1		2	7.3.1.1	MARAD	**Follow up to TGTI response to Data Gap #73**: Additional information is required. Please see USFWS data gaps to be provided in Data Gaps Request Round 2.	Round 2	

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75		2	12.5.2	MARAD	Provide additional details regarding the placement/location of noise attenuation housings with regard to the booster station.	Noise attenuation housings will be placed within the booster station site, for each crude oil pump. Each pump would have its own housing designed to attenuate and reduce the noise level at any receptor outside of the booster station site. See drawing no. 11 of the Engineering Drawing set for a general arrangement of the proposed booster station site. Items 2a, 2b, 2c, and 2d in the drawing represent the location of the booster pumps (5000 HP each). It is proposed that each pump location will include the crude pump and a noise attenuating housing. Final design and layout of the booster station site and booster pump locations will be provided during the final design and engineering phase, to be approved prior to construction of the booster station site.	Not complete. See Data Gap 75-1.
75-1		2	12.5.2	MARAD	**Follow up to TGTI response to Data Gap #75**: See data gap #73-1.	Round 2	
86	Water Quality - Vessel Discharges	Volume II	Section 3	TT	Cooling water from vessel discharges is only listed for the desalinization system. Please confirm if steam vessels operating a steam system condenser discharge cooling water. Volume II Section 3 of the application indicates that another source of cooling water will be essential generator function tests and the IGG. A significant contribution of cooling water discharge from the main propulsion system may be present if the vessel is a steam-based propulsion system. Please confirm if this implies that only diesel-powered vessels will be visiting the SPM buoy.	Only diesel-powered vessels will be visiting the SPM buoy.	Not complete. See Data Gap 86-1.
86-1	Water Quality/Vessel Discharges	Vol II	3	TT	**Follow up to TGTI response to Data Gap #86:** The response indicates that only diesel-powered vessels will be visiting the SPM buoy. However, in Section 7.3.2.3 it is stated that: "Discharges from vessel cooling water systems are heated discharges, with the temperature of the discharge typically in the range of 5 to 10 °F (3 to 6 degrees Celsius [°C]) higher than the temperature of seawater initially withdrawn. This discharge will result in a heated plume that will return to ambient temperatures as it moves away from the tanker." Please clarify this contradiction in vessel power plant descriptions.	According to the Q88 documents in Appendix Q, the three vessels that represent the vessel class and potential users of the DWP are all listed as fuel oil, gas oil, or diesel oil powered. There are no known vessels fueled by natural gas that will utilize the DWP. Because this is not a LNG facility, there will not be any LNG cargo vessels at the DWP. The statement referenced in 7.3.2.3 is a generic statement that would apply to any water discharges from a vessel, including water discharges from sources other than main propulsion engine cooling water. Because the vessels are all oil-fueled, there will be no cooling water used for the main propulsion engines, such as necessary in a natural gas-powered vessel.	
87	Water Quality	Volume II	Section 3, 3.14 401 Water Quality Certification	TT	The application includes statements indicating that the TXDEQ will be reviewing the application for compliance with water quality certification thresholds; however, the RRC will be issuing the water quality certificate. Please confirm whether issuance of the water quality certificate will be following the TXDEW review process.	The Applicant is currently seeking guidance as to whether the Texas Commission on Environmental Quality (TCEQ) and/or the Texas Railroad Commission (TXRRC) are to issue a water quality certification for the proposed Project. Once the issuing agency is confirmed the Applicant will follow the applicable review process to obtain the necessary clearances.	Not complete. See Data Gap 87-1.
87-1	Water Quality/NPDES	Vol II	3; 3.3.14	TT	**Follow up to TGTI response to Data Gap #87:** Please refer to data gap follow up #38-1.	The applicant has determined that the Texas Commission on Environmental Quality (TCEQ) will issue the water quality certification for the proposed Project. As such, the applicant has completed the Tier II Water Quality Certification application and has submitted to the TCEQ for review.	
97	Inshore and Offshore Aquatic Environment	Volume II	Section 5, Page 5-5	TT	Provide the following information on sediment transport in the Laguna Madre missing from Section 5.3.1.1 of the application: • Clarification of the duration of trenching; • Rationale for not including a buffer zone around trenching; • Discussion of impacts of suspended sediment and sediment deposition; • Discussion of the effects on sessile eggs and larvae in the seagrass beds; • Discussion of impacts in terms of direct and indirect effects.	The focus of Section 5.3.1.1 is seagrasses, which are considered the most sensitive habitat that would be affected by inshore construction; however, additional impacts of inshore construction are discussed in Section 7 (impacts on species) and Appendix G (impacts on habitats and species). Responses to each request item are provided below: a. Trenching associated with the inshore pipelines is anticipated to take 5.5 weeks (see Section 3.4.2.1 of Appendix G). b. As discussed in Section 5.3.1.1, Texas Gulf Terminals, Inc. would implement best management practices (BMPs), including weighted turbidity curtains along the edge of the construction workspace to minimize turbidity and sedimentation within the Laguna Madre. Placement of these BMPs at the edges of the work area effectively form a buffer around trenching activities. c. Impacts of suspended sediment and sediment disposition on seagrass is discussed in the referenced section, which focuses on habitats. Impacts from turbidity and sedimentation on various species groups are discussed in Section 7.3.1.2. d. Sessile eggs and larvae would be lost within the Project footprint and would experience increased mortality immediately adjacent to the Project footprint where increased turbidity and sedimentation may occur for hours to days (see Section 7.3.1.2). These impacts are anticipated to be minor and temporary. e. Direct effects on seagrasses would occur within the 9.79 acres impacted within the construction right-of-way within the Laguna Madre. Indirect effects are associated with the increased turbidity and sedimentation that may occur outside of the construction right-of-way, although these effects are anticipated to be minor based on the proposed BMPs, and any additional BMPs required by the USACE upon consultation.	Not complete. See Data Gap 97-1.

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97-1	Inshore and Offshore Aquatic environments	Vol II	5; page 5-5	TT	**Follow up to TGTI response to Data Gap #97:** Please provide any results of modeling of the sediment TSS concentrations expected during pipeline and platform construction activities involving sediment disturbance. Also provide any data or modeling on anticipated depth of sedimentation deposits around the construction area.	In progress	
104	Inshore and Offshore Aquatic Environment	Volume II	Section 5, Page 5-16	TT	Provide additional detail to the analysis of impacts of a spill, including an estimate of the worst-case volume, the shut-off plan, dispersal model results, and other factors relevant to the analysis.	A Trajectory Model has been prepared for the proposed Project and is provided in Volume I as Appendix S. A Worst-Case Discharge (WCD) Calculation has been prepared for the proposed Project is provided in Volume I as Appendix T and includes references of the applicable regulations. The Trajectory Model prepared for the proposed Project simulates two releases at two different discharge rates during various seasonal conditions. The two releases add up to the calculated volume for the WCD. The WCD volume was calculated based on a highly unlikely event that the proposed offshore pipeline infrastructure suffers a complete rupture and all contents of the offshore pipeline infrastructure is evacuated. The Trajectory Model discharge is based on two-time frames: 1) the product (240 barrels) discharged based on the pressure difference between the operating pressure and the hydrostatic pressure at the pipeline depth and is assumed to be instantaneous. 2) the slow leakage of the cargo (63,600 barrels) due to the difference in density of the lighter oil and the water and is very slow over 10 days. Each deterministic seasonal model presented in the Trajectory Model was analyzed to determine any potential environmental and/or socioeconomic impact as a result of an oil spill. The results of the Trajectory Models were evaluated to develop the Tactical Response Plan provided in Volume I as Appendix U. The intent of the Tactical Response Plan is to provide the necessary information to quickly and effectively respond to an incident and provide a toolbox of information to aid response efforts. The Tactical Response Plan also identifies the resources available in the region to aid in response efforts. The Tactical Response Plan provides mitigation measures that should be deployed to protect and limit impacts to sensitive environmental and socioeconomic areas when responding to a release. The WCD Calculation, Trajectory Model, and Tactical Response Plan are provided in Volume I as Appendix T, S, and U.	Not complete. See Data Gap 104-1.

Info Request #	Resource	App Vol	Application Section	Agency	Information Request	Applicant Response	Status
104-1	Inshore and Offshore Aquatic Environment	Volumes I and II	Appendix S, T, U; Section 5		**Follow up to TGTI response to Data Gap #104**: There are inconsistencies between the Appendix S and T and discussion within the application text. Appendix S and T of Vol I state that trajectory analysis uses worst-case discharge ("entire contents of the pipeline") over 10 days and an instantaneous discharge of 240 barrels. Conversely, Section 5 indicates that the system is broken down into two segments that are separated by block valves to create an offshore segment that is 14.71 miles of two 30-inches pipes and an inshore section of 5.74 miles of two 30-inch pipes. Outbound flow rates from the OSTF to the DWP are described to be approximately 60,000 barrels per hour (bph). Considering this information, respond to the following and provide updates to the Trajectory Model, Worst Case Discharge Calculation, and Tactical Response Plan as needed. • An explanation of why 10 days was used to discharge the contents of the pipeline in the Trajectory Model. • An explanation of why the instantaneous discharge of 240 barrels was used when the outbound flow rates are described to be 60,000 bph. • An explanation of why no spill scenario in Laguna Madre is presented, from the block valve on Padre Island to the first valve before the tank in King Ranch. Inshore model: 5.74 miles X 2 pipelines X 5,280 feet X ((28.75/12)/2)^2 X PI = 273,123 ft^3, 48,650 bbls + 500 barrels for shutdown time, 49,150 barrels for the inshore section. The stated segment is 5.74 miles; though according to 33 CFR 150.50 (leads you to 33 CFR 154 Subpart F) this should be the first valve in secondary containment, or the first valve before the storage tank on shore, to the block valves on Padre Island. • Provide clarity on if the 5.74 miles of inshore pipeline is submerged pipeline or the distance between the block valve and the first valve before the tanks. • The stated assumptions only consider one pipeline, the application indicates two. If one was considered based on an assumption, then the assumption should be stated and the sound reasoning behind the assumption. • The scenario for the spill at the mooring buoy does not include a WCD from the VLCC. According to 33 CFR 155.1000, worst Case discharge for a tanker is entire oil cargo. Ship Knowledge Defines a VLCC as a tanker with 200,000 to 300,000 DWT ~ 1.25 - 1.875 Million Barrels. • Section 5 indicates the transfer rate is 60,000 bph, however, the model uses 30,000 bph. Provide reasoning for this assumption. If 30,000 bph was used because the analysis only includes one pipeline, then justification must be given as to why only one pipeline is used, noting that that standard for WCD is "foreseeable".	On Hold until feedback and direction from CG/MARAD/TT	
105	Inshore and Offshore Aquatic Environment	Volume II	Section 5, Page 5-16	TT	Section 5.3.2.4 of the application states: "However, because the worst-case-scenario spill would occur offshore and oil reaching nearshore environments would be highly weathered, significant adverse impacts on seagrasses and oyster reefs are unlikely." Please present the worst-case spill model and provide the justification for assuming that spilled oil would become "highly weathered" before reaching shore.	The oil "weathering" process refers to the changes that occur to oil as it spends time in the environment. After oil released into the environment, it undergoes a wide variety of physical, chemical, and biological processes that begin to transform the oil almost immediately. This process is affected by the spill location, surrounding air and water temperatures, wave activity, wind, and other factors, such as the presence of particulates or sediment in the water. The trajectory model and worse case discharge calculations are shown in Volume I, Appendices S and T, respectively.	Not complete. See Data Gap 105-1.
105-1	Inshore and Offshore Aquatic Environment	Vol II	Section 5; page 5-16	TT	**Follow up to TGTI response to Data Gap #105:** Please provide the justification for assuming that spilled oil would become "highly weathered" before reaching shore. Weathering is a process that takes some time.	In progress	
112	Benthic Habitat	Volume II	Appendix E, Benthic Survey Report	TT	Provide a benthic survey on offshore components of the project.	Soil data including regional studies, sediment samples or borings collected at or nearby Project components was compiled and analyzed to assess the general characteristics and conditions. The following data has been compiled and/or collected and included within Volume I as appendices: - Volume I, Appendix N: Texas General Land Office (GLO) Texas Coastal Sediments Geodatabase (TxSed) Geospatial and Geotechnical Data - Volume I, Appendix F: Offshore Surficial Sediment Sampling Analysis - Volume I, Appendix D: Offshore Geophysical Survey If information in addition to that previously collected is being requested, please advise.	Not Complete. See Data Gap 112-1
112-1	Benthic Habitat	Volume II	Appendix E, Benthic Survey Report	TT	Please provide a similar level of benthic data shown in Vol II Appendix E Benthic Survey for the Laguna Madre section of proposed TGTI project.	Added 11/15 – Need some clarification	

Info Request #	Resource	App Vol	Application Section	Agency	Information Request	Applicant Response	Status
118	Essential Fish Habitat	Volume II	Appendix G, Essential Fish Habitat, Page 15-16	TT	For Tables 3 and 4, provide a key defining "x" and "-".	For both Tables 3 and 4: "X" indicates species is not identified as occurring in ecoregion 5 for the indicated life stage. "--" indicates species is not identified as occurring in ecoregion 5 for the specified life stage. In Table 3, "N/A" indicates that the information is not available in the reference used for that table, which was inadvertently excluded (GMFMC and NMFS 2016 [Final Report 5-Year Review of Essential Fish Habitat Requirements]). In Table 4, the "N/A" is included in the footnotes.	Not complete. See Data Gap 118-1.

118-1	Essential Fish Habitat	Vol II	Appendix G; Essential Fish Habitat, Page 15-16	TT	**Follow up to TGTI response to Data Gap #118:** The definitions for "x" and "--" are identical in the response provided. Please clarify the definitions for these symbols.	Revised definitions are: "x" indicates that the species <u>is</u> identified as occurring in ecoregion 5 for the indicated life stage. "—" indicates that the species <u>is not</u> identified as occurring in ecoregion 5 for the indicated life stage. Tables 3 and 4 are provided below for clarity.	

Table 3: GMFMC Managed Fishes Identified in Ecoregion 5 by Life Stage

Common Name	Scientific Name	Life Stage				
		Eggs	Larvae	Juveniles	Adults	Spawning Adults
Shrimp						
Brown Shrimp	*Farfantepenaeus aztecus*	x	x	x	x	x
Pink Shrimp	*Farfantepenaeus duorarum*	x	x	x	x	x
White Shrimp	*Litopenaeus setiferus*	x	x	x	x	x
Royal Red Shrimp	*Pleoticus robustus*	N/A	N/A	N/A	x	x
Red Drum						
Red Drum	*Sciaenops ocellatus*	x	x	x	x	x
Reef Fish						
queen snapper	*Etelis oculatus*	--	--	--	--	--
mutton snapper	*Lutjanus analis*	--	--	--	--	--
blackfin snapper	*Lutjanus buccanella*	--	--	--	--	--
red snapper	*Lutjanus campechanus*	x	x	x	x	x
cubera snapper	*Lutjanus cyanopterus*	--	--	--	--	--
gray (mangrove) snapper	*Lutjanus griseus*	--	--	--	x	x
lane snapper	*Lutjanus synagris*	x	x	x	x	x
silk snapper	*Lutjanus vivanus*	--	--	--	--	--
yellowtail snapper	*Ocyurus chrysurus*	--	--	--	--	--
wenchman	*Pristipomoides aquilonaris*	x	x	x	x	x
vermilion snapper	*Rhomboplites aurorubens*	x	x	x	x	x
speckled hind	*Epinephelus drummondhayi*	--	--	--	--	--
Goliath grouper	*Epinephelus itajara*	x	x	x	x	x
yellowedge grouper	*Hyporthoduss flavolimbatus*	x	x	x	x	x
red grouper	*Epinephelus morio*	--	--	--	--	--
warsaw grouper	*Epinephelus nigritus*	x	x	x	x	x
snowy grouper	*Epinephelus niveatus*	--	--	--	--	--
Nassau grouper	*Epinephelus striatus*	--	--	--	--	--
black grouper	*Mycteroperca bonaci*	--	--	--	--	--
yellowmouth grouper	*Mycteroperca interstitialis*	x	x	x	x	x
gag	*Mycteroperca microlepis*	--	--	--	x	x
yellowfin grouper	*Mycteroperca venenosa*	--	--	--	--	--
Scamp grouper	*Mycteroperca phenax*	--	--	--	--	--
goldface tilefish	*Caulolatilus crysops*	--	--	--	--	--

blueline tilefish	*Caulolatilus microps*	--	--	--	--	--
tilefish	*Lopholatilus chamaeleonticeps*	x	x	x	x	x
greater amberjack	*Seriola dumerili*	x	x	x	x	x
lesser amberjack	*Seriola fasciata*	x	x	x	x	x
almaco jack	*Seriola rivoliana*	x	x	x	x	x
banded rudderfish	*Seriola zonata*	--	--	--	--	--
gray triggerfish	*Balistes capriscus*	x	x	x	x	x
hogfish	*Lachnolaimus maximus*	--	--	--	--	--
Coastal Migratory Pelagic Fishes						
king mackerel	*Scomberomorus cavalla*	x	x	x	x	x
Spanish mackerel	*Scomberomorus maculatus*	--	x	--	--	--
cobia	*Rachycentron canadum*	x	x	x	x	x

"x" indicates that the species is identified as occurring in ecoregion 5 for the indicated life stage.

"—" indicates that the species is not identified as occurring in ecoregion 5 for the indicated life stage.

"N/A" indicates that data is not available for the species at the indicated life stage

Table 4: Highly Migratory Species in the Project Area by Life Stage

Common Name	Scientific Name	Spawning/ Eggs/ Larvae[a]	Neonates[a]	Juveniles	Adults
sailfish	*Istiophorus platypterus*	-	N/A	x[b]	x
scalloped hammerhead shark	*Sphyrna lewini*	N/A	x	x	x
blacktip shark	*Carcharhinus limbatus*	N/A	x	x	x
bull shark	*Carcharhinus leucas*	N/A	x	x	x
lemon shark	*Negaprion brevirostris*	N/A	x	x	-
sandbar shark	*Carcharhinus plumbeus*	N/A	-	-	x
spinner shark	*Carcharhinus brevipinna*	N/A	x	x	x
whale shark	*Rhincodon typus*	N/A	x[b]	x[b]	x[b]
bonnethead shark	*Sphyrna tiburo*	N/A	x	x	x
Atlantic sharpnose shark	*Rhizoprionodon terraenovae*	N/A	x	x	x
blacknose shark	*Carcharhinus acronotus*	N/A	-	x	x
finetooth shark	*Carcharhinus isodon*	N/A	x	x	x

"x" indicates that the species is identified as occurring in ecoregion 5 for the indicated life stage.

"-" indicates that the species is not identified as occurring in ecoregion 5 for the indicated life stage.

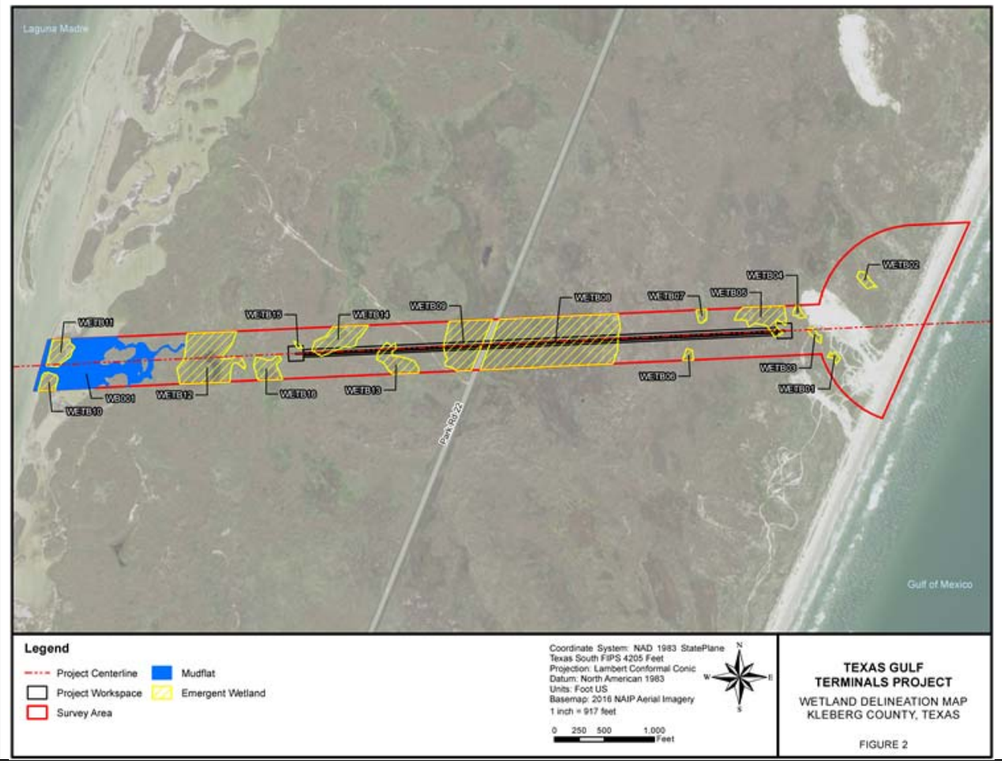
"N/A" indicates that data is not available for the species at the indicated life stage

[a] The earliest life stages for billfishes are eggs and larvae; the earliest life stage for most sharks is the neonate.

[b] Although the Project does not cross EFH for this stage, it is located in immediate vicinity of the Project

N/A indicates life stage does not occur for the selected species

Sources: NOAA 2017

Info Request #	Resource	App Vol	Application Section	Agency	Information Request	Applicant Response	Status
120	Essential Fish Habitat	Volume II	Appendix G, Essential Fish Habitat, Page 24	TT	Provide a discussion of impacts of lights as should be provided in Table 5 of the EFH.	Lighting is not anticipated to result in measurable impacts on EFH (see Section 3.4.3.1) and was therefore excluded from Table 5.	Not complete. See Data Gap 120-1.
120-1	Essential Fish Habitat	Vol II	Appendix G; Essential Fish Habitat, Page 24	TT	**Follow up to TGTI response to Data Gap #120:** Provide support including literature evidence for the conclusion that that lighting has no effect on managed species or their prey. Please note that giant manta ray (*Manta birostris*) has been added as a listed species and would be expected to occur in or near the project area.	In Progress	
125	Wildlife and Protected Species	Volume II	Section 7.2.3.1, Page 7-15 and Section 7.2.3.2, Page 7-16	TT	The application states that for the green sea turtle and Hawksbill sea turtle, "there will be no effects on beach habitat in the Project area because it will be avoided up to 1 mi (1.6 km) offshore via HDD construction methodology. In addition, offshore construction is anticipated to occur outside of sea turtle nesting season." Provide an analysis of impacts to onshore beach habitat for these species and the direct and indirect effects of construction on onshore and inshore areas.	The only potential nesting habitat crossed by the proposed project would be considered the GOM beach front dune area. Although there are a few small topographic high points and remnant dunes found on the Laguna Madre side (western side) of Padre Island, these areas are too low (i.e., too weathered) and too densely vegetated to constitute potential nesting habitat for the green sea turtle or the hawksbill sea turtle. The potential nesting habitat for sea turtles occurs only on the eastern portion of Padre Island in dune areas facing the GOM. The dune zone extends to a maximum width of approximately 1,000 feet west of the GOM beach zone. The proposed HDD drill box is further west of that, at a point approximately ¼ mile west of the GOM beach zone. Therefore, as previously stated in the MARAD/USCG Permit Application package, no impacts to the beach front habitats (potential nesting habitat for both the green and hawksbill sea turtles) are expected from this activity. HDD technology will be used to bore underneath the beach front on the GOM side as well as the Laguna Madre side (Figure 2). 	Not complete. See Data Gap 125-1.

Info Request #	Resource	App Vol	Application Section	Agency	Information Request	Applicant Response	Status
125-1	Wildlife and Protected Species	Vol II	Section 7.2.3.1, Page 7-15 and Section 7.2.3.2, Page 7-16	TT	**Follow up to TGTI response to Data Gap #125:** Provide references supporting the assumption that animals in the sand above the HDD are not affected by the drilling.	The use of horizontal directional drill (HDD) installation methods is an industry standard method to avoid impacts to environmentally sensitive areas. The HDD method employs a drill to create a borehole to insert the pipeline under a designated area. The use of HDD pipeline installation methods is being proposed at every land/water interface to avoid impacts to these sensitive areas. A review of available literature did not result in any findings discussing impacts of HDD pipeline installation methods on fauna located within the sediments located above the HDD. HDD equipment consist of precisely manufactured and machined parts to prevent the emission of vibrations within the soil column. Such vibrations would jeopardize the structural integrity of the bore hole which the pipeline is to be installed within as well as the machinery being used for pipeline installation. Additionally, the proposed depths for which the pipelines are to be installed using HDD is well below the surface. Pipeline depths at HDD 1 will be a minimum of 30' below the surface, 64' at HDD 2, 25' at HDD 3, and 30' at HDD 4. Impacts to fauna within the sediment column would only occur within areas adjacent to the machinery located at HDD entry and exit points. However, the HDD entry and exit locations have been strategically to allow for the space necessary to obtain necessary depths at all land/water interfaces and avoid impacts to their respective soil columns.	

127	Wildlife and Protected Species	Volume II	Section 7.2.3	TT	Provide a discussion justifying the conclusion of the project to not likely to adversely affect (NLAA) sea turtles.	Sea turtles are highly transient species. All five of the species that could occur within the Project Area are known to have substantial migrations. The likelihood of the species being within the Action Area during construction are minimal. Only a few records of green sea turtles and Kemp's Ridley sea turtles exist for this stretch of coastline for Texas. Furthermore, impacts to potential nesting habitat will be avoided by the use of HDD technology. Temporary impacts to 11.75 acres of SAV habitat within the Laguna Madera are expected to occur during construction. Once the project is complete the SAV will be re-established within the Project Area. During turbid events, it would be expected that species in the area would easily migrate to other similar feeding habitat. The increased turbidities would limit feeding within the primary impact zone, but prey would still be accessible in nearby non-affected areas. Impacts to sea turtles are not expected to occur within this area due to construction activities being conducted outside of nesting season and secondly due to having sea turtle biological monitors on site to monitor for the species. On the rare occasions that sea turtles are spotted, the biological monitor will call for work to stop and for the turtle to be allowed to egress the Project Area under their own power. Based on these proposed avoidance, minimization and mitigation measures, we opine that the project may affect, but is not likely to adversely affect the five sea turtle species. **REFERENCES** Behler, J.L., P.C.H. Pritchard, and A.G.J. Rhodin (eds.).Â 1996.Â Special Focus Issue:Â The Leatherback Turtle, *Dermochelys coriacea*.Â Chelonian Conservation and Biology 2(2):137-324. Bureau of Ocean Energy Management (BOEM). 2011. Outer Continental Shelf Oil and Gas Leasing Program: 2012 – 2017. Draft Programmatic Environmental Impact Statement. November 2011. Byrnes et. al. 2017. Habitats and Biota of the Gulf of Mexico: Before the Deepwater Horizon Oil Spill. Volume 1. Water Quality, Sediments, Sediment Contaminants, Oil and Gas Seeps, Coastal Habitats, Offshore Plankton and Benthos, and Shellfish. Edited by C. Herb Ward. Chambault, P., D. Pinaud, V. Vanterpotte, L. Kelle, M. Entraygues, C. Guinet, R. Berzines, K. Bilo, P. Gasper, B. de. Thoisy, Y. Le Maho, and D. Chevallier. 2015. Dispersal and diving adjustments of the green turtle (*Chelonia mydas*) in response to dynamic environmental conditions during post-nesting migration. PLoS One: 2015: 10(9):e0137340. Davis, R.W., J.G. Oretga-Ortiz, C.A. Ribic, W.E. Evans, D.C. Biggs, P.H. Ressler, R.B. Cady, R.R. Leben, K.D. Mullin, and D. Wursig. 2002. Cetacean habitat in northern oceanic Gulf of Mexico. Deep-Sea Research I 49 (2002) 121-142. Dixon, James R. 2014. Amphibians and reptiles of Texas, Third edition. 162 pp. Texas A&M University Press, College Station, Texas, USA. Frankel, A.S., C.W. Clark, L.M. Herman, and C.M. Gariele. 1995. Spatial distribution, habitat utilization, and social interactions of humpback whales, *Megaptera novaeangliae*, off Hawai'i, determined using acoustic and visual techniques. Canadia Journal of Zoology 73:1134-1146. Fulling, G.L, K.D. Mullin, and C.W. Hubard. 2003. Abundance and distribution of cetaceans in outer continental shelf waters of the U.S. Gulf of Mexico. Fishery Bulletin 101(4): 923-932. Jaquet, N., and D. Gendron. 2002. Distribution and relative abundance of sperm whales in relation to key environmental features, squid landings and the distribution of other cetacean species in the Gulf of California, Mexico. Marine Biology (2002) 141:591-601. Hayes, S.A.. E. Josephson, K Maze-Foley, and P.E. Rosel. 2017a. US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2016. NOAA Technical Memorandum NMFS-NE-241. Available online at: https://www.nefsc.noaa.gov/publications/tm/tm241/tm241.pdf. Hayes, S.A.. E. Josephson, K Maze-Foley, and P.E. Rosel. 2017b. US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2017. Draft. Available online at: https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports. Kato, Hidehiro, and W.F. Perrin. 2009. Brydes Whales: *Balaenoptera edeni*: chapter in Encyclopedia of Marine Mammals (Second Edition) Academic Press: pp 158-163. Meylan AB, Witherington BE, Brost B, Rivero R, Kubilis PS. 2006. Sea turtle nesting in Florida, USA: assessments of abundance and trends for regionally significant populations of *Caretta, Chelonia*, and *Dermochelys*. In: Frick M, Panagopoulou A, Rees AF, Williams K, editors. Book of abstracts Twenty–sixth Annual Symposium on Sea Turtle Biology and Conservation. Int. Sea Turtle Soc., Athens, Greece. p. 306–307. Mullin, Kieth, D.,Fulling, Gregory L., and Hubard, Carrie, W. 2003. Abundance and distribution of cetaceans in outer continental shelf waters of the U.S. Gulf of Mexico. Southeast Fisheries Science Center. National Marine Fisheries Service. Available online at: http://aquaticcommons.org/15181/. National Marine Fisheries Service (NMFS). 2015a. Sei Whale (*Balaenoptera borealis*). Available at: http://www.nmfs.noaa.gov/pr/species/mammals/whales/sei-whale.html. Accessed April 2018. National Marine Fisheries Service (NMFS). 2016a. Blue Whale (*Balaenoptera musculus*). Available at: http://www.nmfs.noaa.gov/pr/species/mammals/whales/blue-whale.html. Accessed April 2018. ———. 2016b. Endangered and Threatened Wildlife and Plants: Notice of 12-month Finding of a Petition to List the Gulf of Mexico's Bryde's Whale as Endangered Under the Endangered Species Act (ESA). 81 FR 88639 (08 December 2016), pp 88639-88656. National Marine Fisheries Service (NMFS). 2017a. Bryde's Whale (*Balaenoptera edeni*). Available at: https://www.fisheries.noaa.gov/species/brydes-whale-gulf-mexico. Accessed April 2018 ———. 2017b. Humpback Whale (*Megaptera novaengliae*). Available at: http://www.nmfs.noaa.gov/pr/species/mammals/whales/humpback-whale.html. Accessed April 2018.	Complete.

Info Request #	Resource	App Vol	Application Section	Agency	Information Request	Applicant Response	Status
128	Wildlife and Protected Species	Volume II	Section 7.2.4	TT	Provide a discussion and justification for the conclusions on impacts to marine mammal species which addresses accounts of threats of ship strikes, noise, entanglement, and oil, fuel, or other chemical spills, etc.	See attachment – 082918 DataGap Q 128	Not complete. See Data Gap 128-1.
128-1	Wildlife and Protected Species	Vol II	Section 7.2.4	TT	**Follow up to TGTI response to Data Gap #128:** Response is not adequate, as response cites the same sections that were previously noted as insufficient. Provide evidence and support of impact conclusions. For example, in the discussion of the sei whale 7.2.4.2. the document states: "Determination of Impact: Based on the analysis the Project may affect but is not likely to adversely affect the sei whale in the marine and offshore environments." However, there is NO analyses in the previous text on sei whale, just a description of the animal's physical characteristics, followed by a generic discussion that is not substantive on threats. An impact analysis must be conducted for these marine mammal species. Please provide this analyses and results.	In progress	
129	Wildlife and Protected Species	Volume II	Section 7.2.4	TT	Provide a discussion that addresses occurrence, distribution, and abundance for all marine mammal species in project area waters inshore and offshore.	See answer from 128	Not complete. See Data Gap 129-1.
129-1	Wildlife and Protected Species	Vol II	Section 7.2.4	TT	**Follow up to TGTI response to Data Gap #129:** There is a paucity of specifics regarding the marine mammal species and the request to include specific occurrence and abundance numbers in project area waters which are not provided in the response. The text and Table 2 provides a broad strokes overview and very general and generic information. There is no GOM survey data cited for presence in the project area of these marine mammal species. Please provide project area-specific information.	In progress	